

REMARKSA. Period for Reply

A shortened statutory period for reply was set to expire three months from the date of the Office Action. The Office Action is dated February 25, 2003. This Amendment and Remarks is being filed on or before May 25, 2003.

B. Status

The Office Action of February 25, 2003 was nonfinal.

C. Disposition of Claims

Claims 1, 3, 5, 7 and 9 are pending.

D. Application Papers

There are no drawings in the present case.

E. Priority under 35 U.S.C. §§ 119 and 120

Acknowledgment of the claim for foreign priority and of the receipt of the certified copy of the priority document was made in the Office Action of February 25, 2003. This is appreciated.

F. Attachments

Applicants submitted three PTO-1449 forms in this case, one with the filing of this case on May 24, 2001, and two on February 5, 2002. A signed copy of the PTO-1449 form submitted with the filing of this case on May 24, 2001 has not been received. A signed copy of this form would be very much appreciated. It is respectfully submitted that the prior art listed on this missing PTO-1449 form has been received and considered by the Patent Office because at least one reference, JP 081166, has been cited against applicants in the Office Action dated February 25, 2003.

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G. The Office Action

G.1. Section 1 of the Office Action

In section 1 of the Office Action, quotations of 35 U.S.C. 102(b) and 35 U.S.C. 102(e) were set out.

G.2. Section 2 of the Office Action

G.2.a. The rejection

In section 2 of the Office Action, claims 1, 5, and 9 were rejected under 35 U.S.C. 102(b) as being anticipated by Ihm et al. (US 5,484,861). This rejection is respectfully traversed.

G.2.b. Amendment of independent claims 1 and 9

Each of independent claims 1 and 9 has been amended to include the following limitation:

wherein the aliphatic polyester (B) is obtained from an aliphatic dicarboxylic acid component having 2 to 6 carbon atoms and an aliphatic glycol component having 2 to 4 carbon atoms.

Basis for the amendment to independent claims 1 and 9 is dependent claim 2, the subject matter of which has been incorporated into each of claims 1 and 9.

G.2.c. First ground for allowance of independent claims 1 and 9 over Ihm et al.

The Ihm et al. reference does not disclose an aliphatic polyester being obtained from an aliphatic dicarboxylic acid component having 2 to 6 carbon atoms and an aliphatic glycol component having 2 to 4 carbon atoms. Allowance of each of independent claims 1 and 9 is respectfully requested on the basis of this first ground.

G.2.d. Second ground for allowance of independent claims 1 and 9 over Ihm et al.

Each of independent claims 1 and 9 positively recites, and originally recited, the step of carrying out a reaction of a recycled aromatic polyester (A). Basis for the limitation of "recycled" is found on page 3, lines 18-27, of the specification, which is reproduced below:

Examples of the recycled aromatic polyester (A) as used in the present invention include: a material with a hysteresis of having been passed through a molding machine or spinning apparatus in a heat-melted state; and a recovered (recycled) product formed from a virgin raw material in such as polyester production facilities; and further a product obtained by a process including the step of causing the above recovered (recycled) product to further react with a multifunctional acid anhydride, such as pyromellitic dianhydride, or a multifunctional epoxy compound. The above recovered (recycled) product is favorably used in the form pulverized into the size of 0.1 to 20 mm.

The Patent Office dismisses the limitation of "recycled" on the ground that "use of recycled polyesters can be easily inferred because the goal of the prior art of Ihm et al. is to minimize plastic waste and forming degradable polymers."

It is respectfully submitted that such an inference cannot be made. A recycled plastic is an orange and a biodegradable plastic is an apple. Recycled and biodegradable plastics are two different things, as different as night and day.

Accordingly, since the Ihm et al. reference does not teach the use of a recycled polyester, allowance of each of independent claims 1 and 9 is respectfully requested on the basis of this second ground.

G.3. Section 3 of the Office Action

In section 3 of the Office Action, claims 1-9 were rejected under 35 U.S.C. 102(e) as being anticipated by JP 081166.

It is respectfully submitted that JP 081166 is not available as a reference against applicants under the provisions of 35

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U.S.C. 102(e). 35 U.S.C. 102(e) relates to a United States patent application or an international application published in the English language. JP 081166 is neither.

Allowance of claims 1, 3, 5, 7 and 9 over JP 081166 is respectfully requested.

G.4. Section 4 of the Office Action

In section 4 of the Office Action, a quotation of 35 U.S.C. 103(a) was set out.

G.5. Section 5 of the Office Action

In section 5 of the Office Action the factual inquiries of Graham v. John Deere were set out.

G.6. Section 6 of the Office Action

In section 6 of the Office Action, applicant was advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the Examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

G.7. Section 7 of the Office Action

In section 7 of the Office Action, claims 1, 5 and 9 were rejected under 35 U.S.C. 103(a) as being unpatentable over Ihm et al. (US 5,484,861). This rejection is respectfully traversed for the two reasons set out respectfully in sections G.2.c. and G.2.d in this paper. Allowance of claims 1, 5 and 9 over the Ihm et al. reference is respectfully requested.

G.8. Section 8 of the Office Action

In section 8 of the Office Action, claims 1-9 were rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto (JP 09328554) in view of evidence given in JP 081166. This rejection

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is respectfully traversed on the following three grounds.

G.8.a. First ground: JP 081166 is not available as prior art, so the combination is not sustainable

As noted above, it is respectfully submitted that JP 081166 is not available as a reference against applicants under the provisions of 35 U.S.C. 102(e). 35 U.S.C. 102(e) relates to a United States patent application or an international application published in the English language. JP 081166 is neither. Accordingly, JP 081166 is not available as prior art. Therefore, the combination of JP 09328554 and JP 081166 is not sustainable and allowance of claims 1, 3, 5, 7 and 9 is respectfully requested on the basis of this first ground.

G.8.b. Second ground: Yamamoto does not teach a biodegradable end product

The Yamamoto reference relates to a flexibilized polyester film. It does not teach that its flexibilized polyester film is biodegradable. The limitation of the end product being a biodegradable polyester resin is found in both of independent claims 1 and 9. Allowance of claims 1, 3, 5, 7 and 9 is respectfully requested on the basis of this second ground.

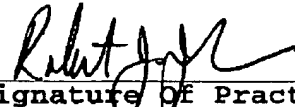
G.8.c. Third ground: Yamamoto does not teach the limitation of the step of carrying out a reaction of a recycled aromatic polyester

Again, the Yamamoto reference relates to a flexibilized polyester film. It has no teaching of the step of carrying out a reaction of a recycled aromatic polyester, a limitation found in each of independent claims 1 and 9. Allowance of claims 1, 3, 5, 7 and 9 is respectfully requested on the basis of this third ground.

I. Summary

In light of the above discussion, issuance of the formal Notice of Allowance would be appreciated.

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Marked up version showing changes

The claims have been amended as follows:

1. (Amended) A biodegradable recycled polyester resin, which is obtained by a process including the step of carrying out a reaction of a recycled aromatic polyester (A) with an aliphatic polyester (B) having a number-average molecular weight of 3,000 to 300,000 in a reaction ratio (weight ratio) of (A)/(B) = 95/5 to 5/95, thereby affording biodegradability to the recycled aromatic polyester (A), wherein the aliphatic polyester (B) is obtained from an aliphatic dicarboxylic acid component having 2 to 6 carbon atoms and an aliphatic glycol component having 2 to 4 carbon atoms.

Claim 2 has been canceled.

3. A biodegradable recycled polyester resin according to claim 1, wherein the aliphatic polyester (B) is obtained by a process including the step of carrying out ring-opening copolymerization of a cyclic acid anhydride (C) and a cyclic ether (D), wherein the cyclic acid anhydride (C) includes succinic anhydride as a major component, and wherein the cyclic ether (D) includes ethylene oxide as a major component.

Claim 4 has been canceled.

5. A biodegradable recycled polyester resin according to claim 1, which has a structure such that the recycled aromatic polyester (A) and the aliphatic polyester (B) are arranged in a block form.

Claim 6 has been canceled.

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7. A biodegradable recycled polyester resin according to claim 3, which has a structure such that the recycled aromatic polyester (A) and the aliphatic polyester (B) are arranged in a block form.

Claim 8 has been canceled.

9. (Amended) A production process for a biodegradable recycled polyester resin, which comprises the step of carrying out a melting reaction of a recycled aromatic polyester (A) with an aliphatic polyester (B) in a heated state in a reaction ratio (weight ratio) of (A)/(B) = 95/5 to 5/95, wherein the aliphatic polyester (B) has a number-average molecular weight of 3,000 to 300,000, and wherein the aliphatic polyester (B) is obtained from an aliphatic dicarboxylic acid component having 2 to 6 carbon atoms and an aliphatic glycol component having 2 to 4 carbon atoms.